CLAIMS

1. A method of decreasing the time necessary to correlate with incoming signals from a base station in a wireless communication system, comprising:

identifying a current PN offset;

identifying a subsequent PN offset; and

using a PN mask to jump from the current PN offset to the subsequent PN offset.

2. A method for generating a pseudo-random number (PN) sequence used to search for a transmitted signal in a wireless communication system, comprising:

determining a current phase of the PN sequence;

determining a new phase for the PN sequence where a new search for the transmitted signal is to be started;

determining a difference between the new and current PN phases;

selecting a PN mask based at least in part on the determined phase difference, wherein the PN mask is used to adjust the phase of the PN sequence by a particular amount determined by a value of the PN mask; and

generating the PN sequence with the new phase based at least in part on the selected PN mask.

3. The method of claim 2, further comprising:

partitioning the determined phase difference into a coarse phase adjustment and a fine phase adjustment, and

wherein the PN mask is selected based at least in part on the coarse phase adjustment.

4. The method of claim 3, wherein the coarse phase adjustment is in increments of 64 PN chips.

5. The method of claim 3, further comprising:

adjusting the phase of the PN sequence by the fine phase adjustment.

6. The method of claim 5, wherein the adjusting is achieved by slewing the PN sequence one PN chip at a time.

7. The method of claim 2, further comprising:

defining a search window to be used for the new search, wherein the search window comprises a range of PN phases to be searched, and

wherein the new PN phase is dependent on values for one or more parameters defining the search window.

8. The method of claim 7, wherein the new PN phase is dependent on a width of the search window.

9. The method of claim 7, wherein the new PN phase is dependent on an offset for the search window.

10. The method of claim 2, further comprising:

determining a PN offset associated with a transmission source of the transmitted signal to be searched, and

wherein the new PN phase is dependent on the PN offset associated with the transmission source.

11. The method of claim 2, further comprising:

generating a primary PN sequence with a PN generator having a linear sequential shift register (LSSR), and

wherein the PN sequence with the new phase is generated by applying the selected PN mask to the primary PN sequence.

12. The method of claim 2, wherein the PN mask is selected from a plurality of possible PN masks.

13. The method of claim 12, wherein the plurality of possible PN masks are capable of providing PN sequences separated from each other by at most 64 PN chips.

14. The method of claim 12, wherein the PN mask is selected to minimize a distance between the new PN phase and the PN phase obtained with the selected PN mask.

15. The method of claim 2, wherein the communication system is a CDMA system.

16. The method of claim 15, wherein the CDMA system implements IS-95 or cdma2000 standard.

17. A method for searching for a pilot in a wireless communication system, comprising:

identifying a transmission source for the pilot to be searched;

determining a PN offset associated with the transmission source;

defining a search window to be used for a new search for the pilot, wherein the search window comprises a range of PN phases to be searched;

determining a phase adjustment for a pseudo-random number (PN) sequence to move the PN sequence from a current PN phase to a new PN phase, wherein the new PN phase is dependent on the PN offset associated with the transmission source and one or more parameter values for the search window;

selecting a PN mask based at least in part on the determined phase adjustment, wherein the PN mask is used to adjust the phase of the PN sequence by a particular amount determined by a value of the PN mask;

generating the PN sequence with the new phase based at least in part on the selected PN mask; and

processing a received signal with the generated PN sequence to search for the pilot.

18. The method of claim 17, wherein the search for the pilot is performed for a plurality of search windows and wherein a PN mask is selected for each search window.

19. The method of claim 17, further comprising:

partitioning the determined phase adjustment into a coarse phase adjustment and a fine phase adjustment, wherein the PN mask is selected based at least in part on the coarse phase adjustment.

20. The method of claim 19, further comprising:

adjusting the phase of the PN sequence one or more PN chips at a time to move the phase of the PN sequence by the fine phase adjustment.

21. A receiver unit in a wireless communication system comprising a pseudo-random number (PN) generator operative to

determine a current phase of a PN sequence used to search for a pilot and a new phase for the PN sequence where a new search for the pilot is to be started,

determine a difference between the new and current PN phases,

receive a PN mask indicative of the determined phase difference, wherein the PN mask is used to adjust the phase of the PN sequence by a particular amount determined by a value of the PN mask, and

generate the PN sequence with the new phase based at least in part on the received PN mask.

22. The receiver unit of claim 21, further comprising:

a searcher element coupled to the PN generator and operative to receive and correlate data samples for a received signal with the generated PN sequence to provide a correlated value used to detect the pilot.

23. The receiver unit of claim 22, further comprising:

a controller operative to direct the PN generator and the searcher element to search for the pilot within a particular search window representative of a range of PN phases.

24. The receiver unit of claim 23, wherein received PN mask is selected from a plurality of possible PN masks, and wherein the plurality of possible PN masks are capable of providing PN sequences separated from each other by at most 64 PN chips.